(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 April 2005 (28.04.2005)

PCT

(10) International Publication Number
WO 2005/037643 A1

(51) International Patent Classification[7]: B63H 23/30, F16D 48/06, 25/0638

(21) International Application Number: PCT/AU2004/001428

(22) International Filing Date: 20 October 2004 (20.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2003905767	20 October 2003 (20.10.2003)	AU
60/515,838	30 October 2003 (30.10.2003)	US

(71) Applicant (*for all designated States except US*): NAUTITECH PTY LTD [AU/AU]; Unit 9/6 Anella Avenue, Castle Hill, New South Wales 2154 (AU).

(72) Inventors; and

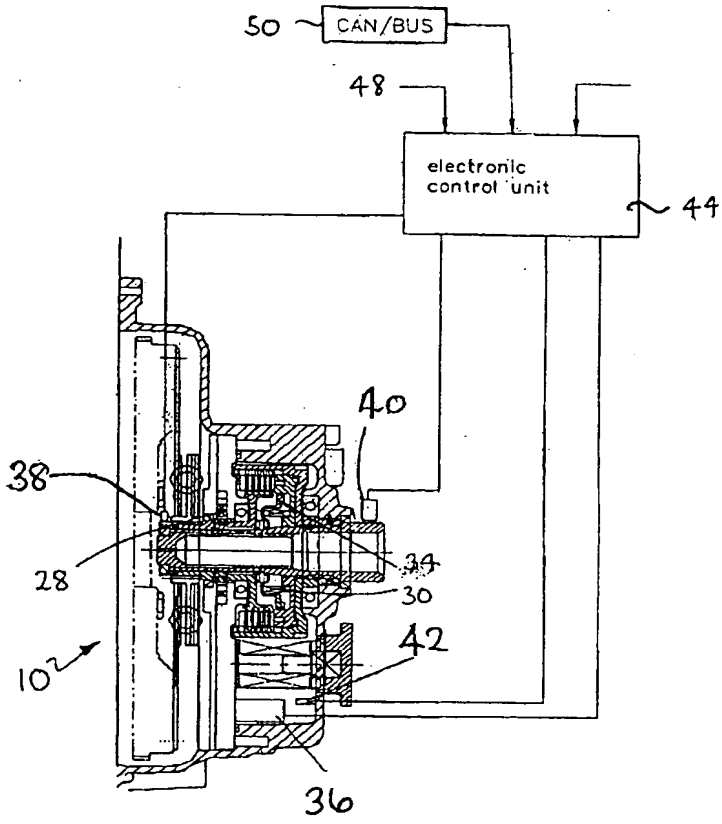
(75) Inventors/Applicants (*for US only*): TAMBA, Ric [AU/AU]; Unit 9/6 Anella Avenue, Castle Hill, NSW 2154 (AU). TAPPER, Steve [AU/AU]; Unit 9/6 Anella Avenue, Castle Hill, NSW 2154 (AU). DONNELLY, Paul [AU/AU]; Unit 9/6 Anella Avenue, Castle Hill, NSW 2154 (AU).

(74) Agent: F B RICE & CO; 605 Darling Street, Balmain, New South Wales 2041 (AU).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: DECOUPLING CLUTCH, PARTICULARLY FOR MARINE



(57) Abstract: Stand alone decoupling clutch (10) is used in drive shafts, eg of watercraft. Clutch (10) is separate from any gearbox, etc, does not change the direction of rotation of the drive shaft, and has a single clutch area which allows slippage at any speed or torque. Electronic control system (44) controls slippage of the clutch (10) providing for low speed operation, high energy launches, driveline protection, etc. Slip speed is controlled sensing input shaft speed (38) and the output propeller speed (40) and altering hydraulic pressure accordingly on a clutch-compressing piston by opening direct-acting, high flow, electro-hydraulic solenoids (36).

WO 2005/037643 A1

WO 2005/037643 A1

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.